

THE CLAIMS

What is claimed is:

- 5 1. A bacterial strain of the *B. subtilis* group, wherein one or more genes involved in the biosynthesis of isovaleric acids have been modified such that the strain cannot produce substantial amounts of iso-valeric acids.
2. The *B. subtilis* strain of claim 1, which is *B. natto* and which does not produce taste
10 perceptible amounts of iso-valeric acids.
3. The *B. subtilis* strain of claim 1, wherein the modified gene(s) have a reduced activity, are essentially non-functional or are missing.
- 15 4. The *B. subtilis* strain of claim 3, wherein the modified gene(s) is derived from the *ywfL* gene.
5. The *B. subtilis* strain of claim 1, that contains no exogenous DNA sequences.
- 20 6. The *B. subtilis* strain of claim 1, prepared by recombinant gene technology.
7. The *B. subtilis* strain of claim 6, which is *B. natto* I-2077.
8. The *B. subtilis* strain of claim 1, prepared by mutagenesis and selection.
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9. A method for improving flavor characteristics of a fermented plant material by fermenting the plant material with a bacterial strain of the *B. subtilis* group that does not produce substantial amounts of iso-valeric acids.
- 30 10. The method of claim 9, wherein the bacterial strain includes one or more genes involved in the biosynthesis of isovaleric acids that have been modified such that the strain cannot produce iso-valeric acids.

11. The method of claim 9, wherein the strain is *B. natto* and no taste perceptible amounts of iso-valeric acids are produced.
- 5 12. The method of claim 9, wherein the fermented plant material is used for the preparation of foodstuff.
13. The method of claim 9, wherein the fermented plant material is used for the preparation of a flavoring agent.
- 10 14. The method of claim 10, wherein the plant material is beans and the fermented plant material is used for the preparation of Natto.